



DD-DeCaF: Data-Driven Design of Cell Factories and Communities

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DD-DeCaF: Data-Driven Design of Cell Factories and Communities

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Omics data is not leveraged effectively in the biotechnology industry due to lack of tools to rapidly access public and private data and to design genetic and experimental manipulations based on the data. With the rapid development of synthetic biology methods such as the CRISPR/Cas9 system for genome editing, there is an ever increasing need to design complex non-intuitive manipulations involving simultaneous changes at multiple loci. With this project we aim to make a broad spectrum of omics data useful to the biotechnology industry by integrating data analysis with design within the same platform. This platform can be used in a wide range of application areas, ranging from industrial biotechnology to agriculture and human health.

A group of five renowned academic partners (DTU, Chalmers, EMBL, EPFL and UMinho) will drive research on integrative model-based omics data analysis to enable:

1. Metagenomics-enabled design of novel enzymes and biochemical pathways.
2. Omics data-driven design of cell factories for the production of chemicals and proteins.
3. Analysis and design of microbial communities relevant to human health, industrial biotechnology and agriculture.

All research efforts will be integrated in an interactive web-based platform that will be available for the industrial and academic research and development communities, in particular enhancing the competitiveness of biotech SMEs by economizing resources and reducing time-to-market within their respective focus areas. The platform will be composed of standardized and interoperable components that will be freely available for use by academic users.

Additional information: dd-decaf.eu

